

various sovereign Indian tribes throughout the United States. In 30 years, the IHS has evolved into an exceedingly complex system of care, embodying several unique concepts and programs. It carries out its various functions through a system of service units, usually organized around a hospital with a number of clinics. In addition to "traditional" one-on-one physician-patient encounters, it operates a great variety of services such as emergency, environmental health, outreach, community health workers, and others. It enters into contracts with both tribes and the private sector under a wide range of circumstances. The decentralized organization has proved to be readily

adaptable to new situations and conditions, and it serves as one model for the organization of health services on a national scale.

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The Indian Health Service Record of Achievement

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Synopsis.....

The Indian Health Service (IHS) was transferred from the Department of Interior to the Public Health Service in the Department of Health, Education, and Welfare in 1955. At that time, the

general health of Indian people substantially lagged behind the rest of the U.S. population. This gap was reflected in mortality rates which were several-fold higher for Indians, or reflected in time; there were decades between the dates when the U.S. population achieved certain lower death rates compared with the dates when similar reductions were achieved by Indians.

As a result of preventive health programs, improvements in sanitation, and the development of a number of medical advances, substantial progress has been achieved in improving the health of American Indians and Alaska Natives. Life expectancy of Indians has increased 20 years between 1940 and 1980. From 1955 through 1982, the death rate for Indian infants dropped by 82 percent. Also, the age-adjusted death rate for tuberculosis decreased from 57.9 per 100,000 population in 1955 to 3.3 in 1983. These and other improvements are summarized in this paper.

WHEN THE INDIAN HEALTH Service was transferred to the Public Health Service from the Department of the Interior in 1955, the health status of the Indian people was substantially lower than that of the rest of the U.S. population. The disparity was most apparent in the death rates for Indians. In the more than three decades since the transfer, progress has been substantial.

An overview of the changes that have occurred is presented in this short paper. A number of

benchmarks or indicators are used to document the gains. These include life expectancy at birth, age at death, maternal and child health, and age-adjusted death rates for certain infectious diseases.

Life Expectancy at Birth

In 1940, the life expectancy of Indians born in that year was 51.0 years. This was 13.9 years shorter than the life expectancy of U.S. whites

born in the same year. By 1950, the life expectancy of Indians had increased by 9.0 years to 60.0 years. By 1980, the life expectancy of American Indians had increased to 71.1 years, almost 40 percent higher than in 1940. These data are presented in table 1. For the United States (all races), the increase was from 64.2 to 74.4 years, an increase of 16 percent during the same period. Thus, during the 40 years between 1940 and 1980, 20 years of longevity were added to the Indian lifespan compared with only 10 years for the U.S. white population (1).

Age at Death

Figure 1 shows the distribution of deaths by age for Indians in 1955 compared with 1982. In 1955 only about one in four Indian deaths were among Indians aged 65 years and older. By 1982, the proportion of Indian deaths in this age category had increased to two in five. Thus, by 1982, a substantially greater number of Indians were living to age 65 years, with a corresponding decrease in those dying at an early age. For example in 1955, 25 percent of deaths occurred among those under 1 year of age. This contrasts to 6.4 percent of those dying in 1982, a decrease of almost 19 percentage points (2).

Maternal and Child Health

The Indian birth rate of 28.5 per 1,000 population in 1982 was 79 percent higher than that for the general U.S. population of 15.9 in 1982. Expanded community health nursing activities have focused on problems of the newborn, including an emphasis on early prenatal care, education of families in caring for infants, and continuing care after the mother and child leave the hospital. The midwifery and community health representative programs of the IHS have been especially effective in making maternal and child health services accessible to those living in isolated areas. In FY 1985, approximately a third of the Indian women of childbearing age served by the IHS received family planning assistance, including counseling, fertility, and contraceptive services. Today, virtually all babies of IHS patients are born in hospitals. More than 85 percent of the preschool patients seen by the IHS are immunized against vaccine-preventable diseases, substantially higher than the national percentage.

During the past 30 years, improvements in IHS prenatal, obstetrical, and pediatric services have

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Table 1. Life expectancy of American Indians and U.S. whites for selected years

Census year	Life expectancy at birth (years)		Difference in years
	American Indians	U.S. whites	
1980	71.1	74.4	3.3
1970	65.1	71.7	6.6
1960	61.7	70.6	8.9
1950	60.0	69.1	9.1
1940	51.0	64.2	13.2

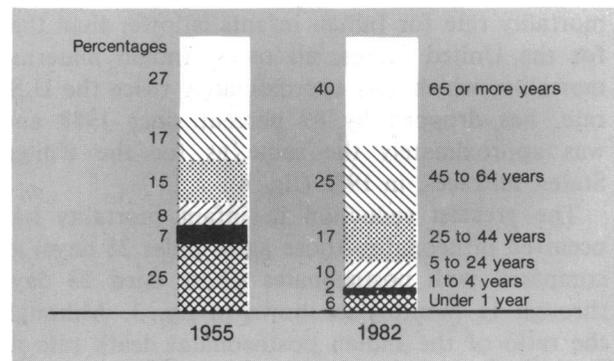
SOURCES: Division of Program Statistics, Indian Health Service, and for U.S. whites, National Center for Health Statistics.

Table 2. Percent change in infant mortality rates by age, 1972-82

Age at death	Indians and Alaska Natives	U.S., all races
Under 28 days	-51	-44
Under 1 day	-57	-46
1-6 days	-57	-53
7-27 days	-21	0
28 days-11 months	-45	-21

SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics for United States, all races.

Figure 1. Distribution of deaths by age, American Indians and Alaska Natives, 1955 and 1982



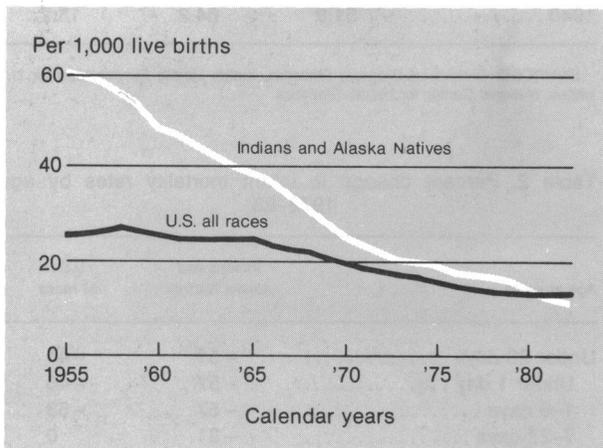
SOURCE: Division of Program Statistics, Indian Health Service.

Table 3. Program accomplishments of the Indian Health Service as reflected in declining death rates between 1954-56 and 1981-83

Health status indicator	Calendar year 1954-56 rate	Calendar year 1981-83 rate	Percent decrease
Infant deaths per 1,000 live births.....	62.7	11.0	82
Neonatal deaths per 1,000 live births.....	23.1	5.0	78
Postneonatal deaths per 1,000 live births.....	39.7	6.1	85
Certain conditions originating in the perinatal period per 100,000 population.....	67.6	9.7	86
Maternal deaths per 100,000 live births.....	¹ 82.6	8.9	89
Pneumonia and influenza per 100,000 population.....	89.8	16.2	82
Tuberculosis, all forms, per 100,000 population.....	55.1	2.3	96
Gastrointestinal diseases per 100,000 population.....	39.2	2.9	93
Congenital malformations per 100,000 population.....	19.0	6.8	64
Accidents per 100,000 population.....	155.6	84.4	46

¹ 1957-59. SOURCE: Division of Program Statistics, Indian Health Service.

Figure 2. Infant mortality rates for American Indians and Alaska Natives compared with United States, all races, 1955-82



SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics.

lowered maternal and neonatal mortality substantially. From 1955 through 1982, the death rate for Indian infants fell by 82 percent (fig. 2). As fig. 3 illustrates, during the first 28 days of life, the mortality rate for Indian infants is lower than that for the United States, all races. Indian maternal mortality, which was approximately twice the U.S. rate, has dropped by 89 percent since 1958 and was approximately the same as for the United States, all races, in 1982 (fig. 4).

The greatest reduction in infant mortality has occurred in neonates (those aged under 28 days) as compared with postneonates (those aged 28 days through 11 months) as shown in fig. 3. Although the ratio of the Indian postneonatal death rate to that of the general U.S. population is 1.6, the

Indian postneonatal rate declined 45 percent from 1972 to 1982 compared with a 21 percent decrease in the rate for the general U.S. population (table 2).

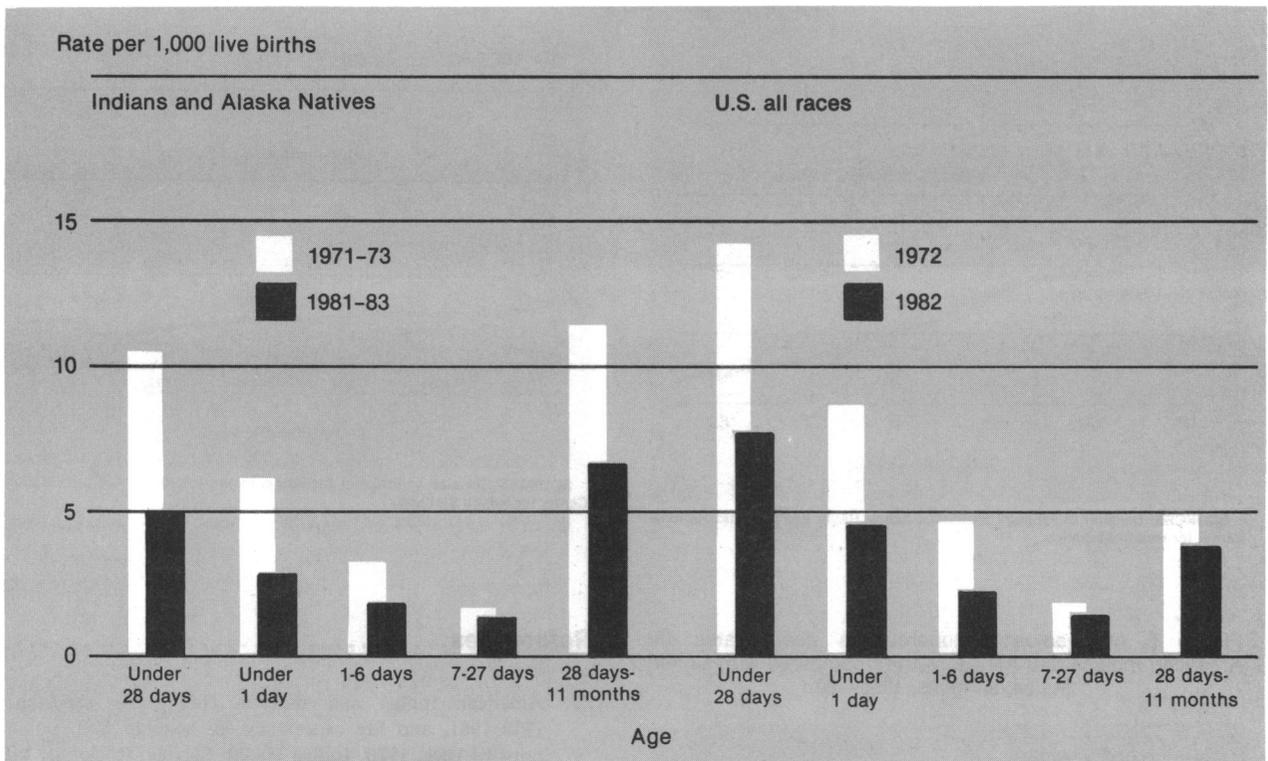
Certain Infectious Diseases

Tuberculosis, once a major scourge of Indian communities, has been largely controlled. This is evidenced by a decrease in the age-adjusted death rate from 57.9 per 100,000 population in 1955 to 3.3 in 1983 (fig. 5). Much of this has been accomplished by a special program designed to identify and treat persons with active cases, a program which continues long after all tuberculosis hospital beds were closed during the mid-1970s by the Indian Health Service.

The other great improvement in infectious disease mortality has occurred in deaths associated with gastrointestinal diseases. As shown in fig. 6, the age-adjusted mortality rate from these conditions has decreased from 15.4 to 4.2 per 100,000 population between 1955 and 1983. Since 1983 the rates for Indians and for United States, all races, have converged.

The greatest influence on gastrointestinal disease has been the effect of the IHS program of constructing sanitation facilities. This program is sufficiently important and distinctive to merit special comment. In 1959, the U.S. Congress passed Public Law 86-121, the Indian Sanitation Facilities Act, which authorized the IHS to construct safe water and sewage disposal facilities for Indian homes. The following year, 1960, 60 Indian homes received their first sanitation facilities. By 1964, the Department of Housing and Urban

Figure 3. Infant mortality rates by age for American Indians and Alaska Natives compared with United States, all races, 1972 and 1982



SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics.

Development began building homes for Indians with the installation of community sewage and water systems by the IHS. In 1977, a special appropriation by the U.S. Congress permitted providing sanitation facilities to several thousand existing homes for the first time. Thus, by 1985, a total of 149,052 homes had been served. It is estimated that about 15 percent of existing Indian homes have never been served by the IHS and remain without adequate water or sewer facilities.

The record of achievement by the IHS is summarized in table 3. The decrease in mortality between 1955 and 1982 for a variety of conditions is striking. These accomplishments have been accompanied by substantial increases in access to care as reflected in the following increases between 1955 and 1982: hospital admissions, up 117 percent; outpatient visits, up 870 percent; and dental services, up 964 percent.

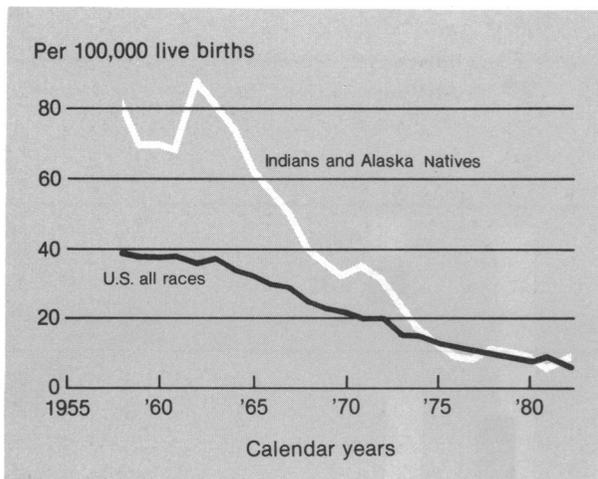
Conclusion

Since 1955, when the IHS was transferred from the Department of the Interior to the Department of Health, Education, and Welfare, tremendous

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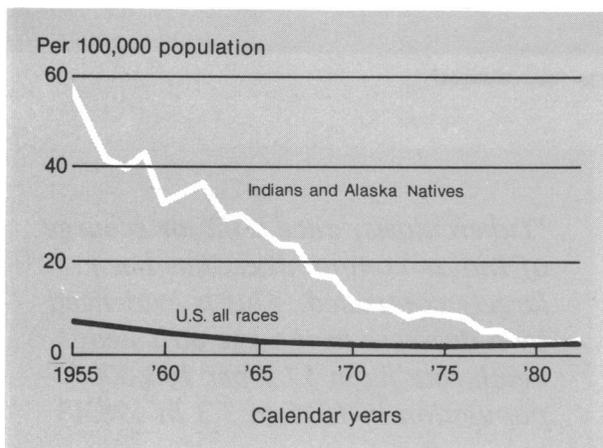
improvements have been realized, especially in infant and maternal mortality. Other improvements have been reflected in both life expectancy and in the distribution of deaths by age. The proportion of Indian deaths in the 65 years and older age group has increased from one in four in 1955 to two in five in 1982. This has been accompanied by a sharp reduction in the proportion of deaths under 1 year of age. There are obviously many reasons for these improvements. Notable are a dramatic increase in ambulatory medical care services, an extensive program of constructing sanitation facilities, and the develop-

Figure 4. Maternal death rates for American Indians and Alaska Natives compared with United States, all races, 1958-82



SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics.

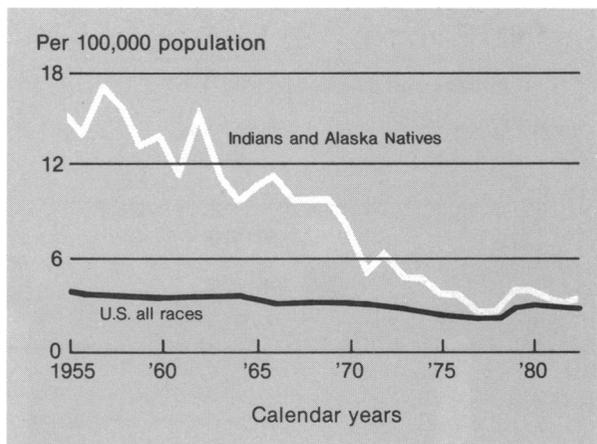
Figure 5. Age-adjusted tuberculosis death rates for American Indians and Alaska Natives compared with United States, all races, 1955-83



SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics.

ment of a community-oriented care program. Unfortunately, these improvements have been accompanied by increases in mortality from diabetes, alcoholism, suicides, and homicides. These changes and their implications are the subject of the discussion by Rhoades and coworkers in a companion paper (3).

Figure 6. Age-adjusted deaths rates for gastrointestinal disease for American Indians and Alaska Natives compared with United States, all races, 1955-83.



SOURCES: Division of Program Statistics, Indian Health Service, and National Center for Health Statistics.

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